

Correspondence

## Multiple factors causing acute renal failure



### To the Editors,

We read Dr Wang and colleagues' correspondence entitled "Was acute renal failure induced by ureter catheters" [1] with interest. Their spirited refusal to stop asking without being answered should be learned by everyone, because it is the very basis of improvement, especially in science; this spirit should be promoted in Taiwan.

First, we thought that the cause of renal failure in this case was multiple etiologies [2–6], as shown in the flow chart of the article [7]. The predisposing factors included ureteral injury during retrograde catheterization and the ureter unroofing procedure. Nonsteroidal anti-inflammatory drugs, transamine use, and spasm of the ureter after removal of the ureteral catheter all aggravated the formation of blood clots in the ureter and renal pelvis. No single factor explains this adverse effect. The edematous change in the ureteral orifice was one of the causal factors, but the authors do not consider it as the main factor because only minimal edema was reported in the article. Postoperative ureteroscopy examination revealed impaction of blood clots at bilateral ureteral orifice, lumen of ureter, and renal pelvis, but no perforative injury throughout the entire ureter was noted. Therefore, no leakage of urine occurred. According to the operation note by the urologist, external compression at the right side of the orifice was likely. Minor hematoma formation outside the bladder was possible, but we do not consider it as the main cause of this adverse event. Besides, no hematoma was visible in the abdominal CT (Figs. 1 and 2).

Second, the body weight of the patient increased from 89 kg to 90 kg following the operation. Two J-P drains were inserted via the abdominal wall, and the tips were placed at the cul-de-sac and retroperitoneum. The drainage was pinkish in color, and the total collected volumes were 255 mL on Day 1 and 140 mL on Day 2. Both the color and volume of the drainage were considered to be normal 48 hours after operation.

Third, the ureteral catheter was removed immediately after the radical hysterectomy. A double J was inserted in a retrograde manner, indicating that the edematous change over the ureteral orifice was mild in nature; otherwise, the double J insertion would not have been successful.

We greatly appreciate your questions, which help the reader understand the cause of renal failure in this case. We have also



Fig. 1. No ascites or hematoma at the lowest part of pelvis is observed.

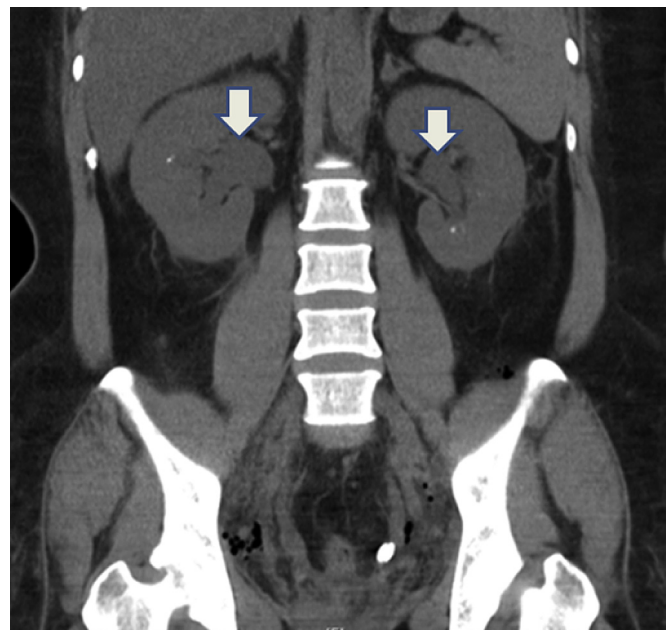


Fig. 2. Blood clots in the bilateral renal pelvis (arrow), and no ascites or hematoma in the pelvis on sagittal view are shown.

learned how to write in greater detail, for which we are most grateful.

## References

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Mun-Kun Hong\*

*Department of Obstetrics and Gynecology,  
Buddhist Tzu Chi General Hospital,  
Hualien, Taiwan*

\*Department of Obstetrics and Gynecology, Buddhist Tzu Chi  
General Hospital, 707, Section 3,  
Chung Yang Road, Hualien, Taiwan.  
E-mail address: [hongmunkun@tzuchi.com.tw](mailto:hongmunkun@tzuchi.com.tw)